Utah’s coal reserves raise a burning question

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Worldwide energy demand is skyrocketing as carbon dioxide continues to build up in the atmosphere.

CO2, largely released by burning hydrocarbons to generate electricity, is blamed for global warming. The heating of the world is seen as a potential disaster whose magnitude can't be gauged.

Emerging economies have triggered an unprecedented surge in constructing air-polluting power plants. The Xinhua News Agency in China said that in the first 11 months of 2004 alone, plans were submitted to build 200 new coal-fired power plants. Greater competition for all sources of energy has caused the price of oil, uranium and many other commodities to soar.

Meanwhile, fears about melting ice caps, about running out of resources and about the dangerous health effects of air pollution force people everywhere to closely examine their energy reserves and options.

A good place for Utahns to begin is by thinking about the energy source the state has depended upon most heavily and for the longest period — coal.

A story recently circulated in the Capitol and in coal towns that Utah's once-enormous coal reserves are running out, that the state may have only around a dozen years' worth left. Others have countered that known deposits could last at least another half-century.

Is Utah really running out of coal?

"It's kind of a yes and no answer," says Michael Vanden Berg, a geologist with the Utah Geological Survey.

"Yes, the current mines are depleting their resources around the mines." Some mines are within a year or two of closing their portals because they are nearly out of coal, he said.

The vast majority of Utah's mining takes place in the Book Cliffs and Wasatch Plateau coal fields, Vanden Berg said. "They've been mined for a century or more. And so, yes, the coal in these two fields is beginning to run out."

James F. Kohler, chief of the Bureau of Land Management's Solid Minerals Office in Salt Lake City, recently told the Utah Geological Association that coal production in the state in 1985 was about 12 million tons. Now it's around 27 million tons. Since 1985, federal and state agencies have issued new leases on about 539 million tons of coal. (Leases give the legal right to extract resources from government or private land.)

Meanwhile, some mines were in places with few remaining reserves, causing a few to close. Central Utah mines still operating have these reserves under lease: Canyon Fuel Co., 128.5 million tons; Consolidated Coal, 40 million; PacifiCorp, 53 million; others, 89.6 million. The total is 311.1 million tons.

At a production rate of 27 million tons yearly, he noted, the amount under lease might last another 12 to 14 years. This is where claims come from that Utah has fewer than 15 years of coal mining left.

Vanden Berg puts it in simple terms. Assume production is in the ballpark of 25 million tons a year. Coal currently under lease that has not been tapped amounts to 300 million tons. Divide 300 million by 25 million a year and the result is 12 years.

That reasoning is faulty, according to Vanden Berg and Kohler. "They're not accounting for new leases," Vanden Berg said.

Large tracts of nonleased coal remain in the Wasatch Plateau and Book Cliffs fields, which are not far from Price. Reserves of 50 million tons to 100 million tons should become available in the next few years, he said.

Kohler said about 275 million tons of reserves are available in the Wasatch Plateau Coal Field; 686 million tons in the Book Cliffs Coal Field, and 200 million tons in the Emery Coal Field, for a total of 1.2 billion tons in central Utah in the vicinity of established mines.

At present production rates, this will last "a little over 40-45 years," he added.

Utah Geological Survey experts estimate that remaining recoverable coal in the Book Cliffs and Wasatch Plateau fields amounts to nearly 2 billion tons — enough to sustain current production for 30 to 50 years, depending on how difficult it is to extract.

To say the state will run out in 12 years is "simply not true," said Vanden Berg, who is also an energy database specialist with the Survey.

Beyond the next half-century, "Utah still has a large amount of coal in other coal fields. The Emery Coal Field currently has one small mine in it ... but it has up to 800 million tons of recoverable coal."

Outside the present coal country of Carbon and Emery counties are other huge coal deposits. A new mine is proposed at the Alton Coal Field in Kane County, a field with an estimated 1 billion tons of coal.

The proposal envisions trucking the coal to Cedar City, where it would be unloaded and placed aboard coal trains. Objections that Vanden Berg has heard to this plan include "having coal trucks running 24 hours a day, seven days a week through Hatch and Panguitch and those small towns." It's a long distance from Alton to Cedar City, he said.

"Then there's a couple of other coal fields that have significant reserves in them that we haven't touched yet," he said. These reserves aren't near Utah's coal capital, Price. Before they could be developed, roads, railroads and other infrastructure must be built.

"It's basically a matter of transportation for now," Vanden Berg noted. "Sooner or later they're going to have to start venturing out farther" from Price.

Utah's biggest coal field, the Kaiparowits Plateau field in Kane and Garfield counties, is estimated to have 62 billion tons in place, according to a circular issued by the Utah Geological Survey in 1997. Of this, the mineable portion is 22.7 billion tons, though not all of that could be extracted economically.

"We estimate recoverable reserves at 9.1 billion tons," Vanden Berg said. That amounts to more than 61 percent of the total in the state.

But most of the Kaiparowits coal won't be mined soon, if ever. It is within Grand Staircase-Escalante National Monument, designated by then-President Bill Clinton in 1996.

The word "reserves" does not mean any amount of coal, located anywhere and in any type of seam, according to Kohler. Reserves must be suitable for economical extraction at the present. "If you can't mine it at a profit at the time of determination, it's not a reserve," he said.

Considerations that go into deciding what's a profitable reserve include how thick the coal bed is, the quality of the coal, the depth of the overburden (a "very, very significant" factor), geologic conditions such as whether seams are connected, and whether the coal block is big enough to justify the investment.

Still, Kohler said, Utah coal that is easily accessible and not too far from present production facilities should last 40 to 45 years at today's rate of mining.

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